Vision Christchurch Public Forum
North New Brighton War Memorial Community Centre, Christchurch
Sunday 12th June 2011

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An integrated system of public & private transport

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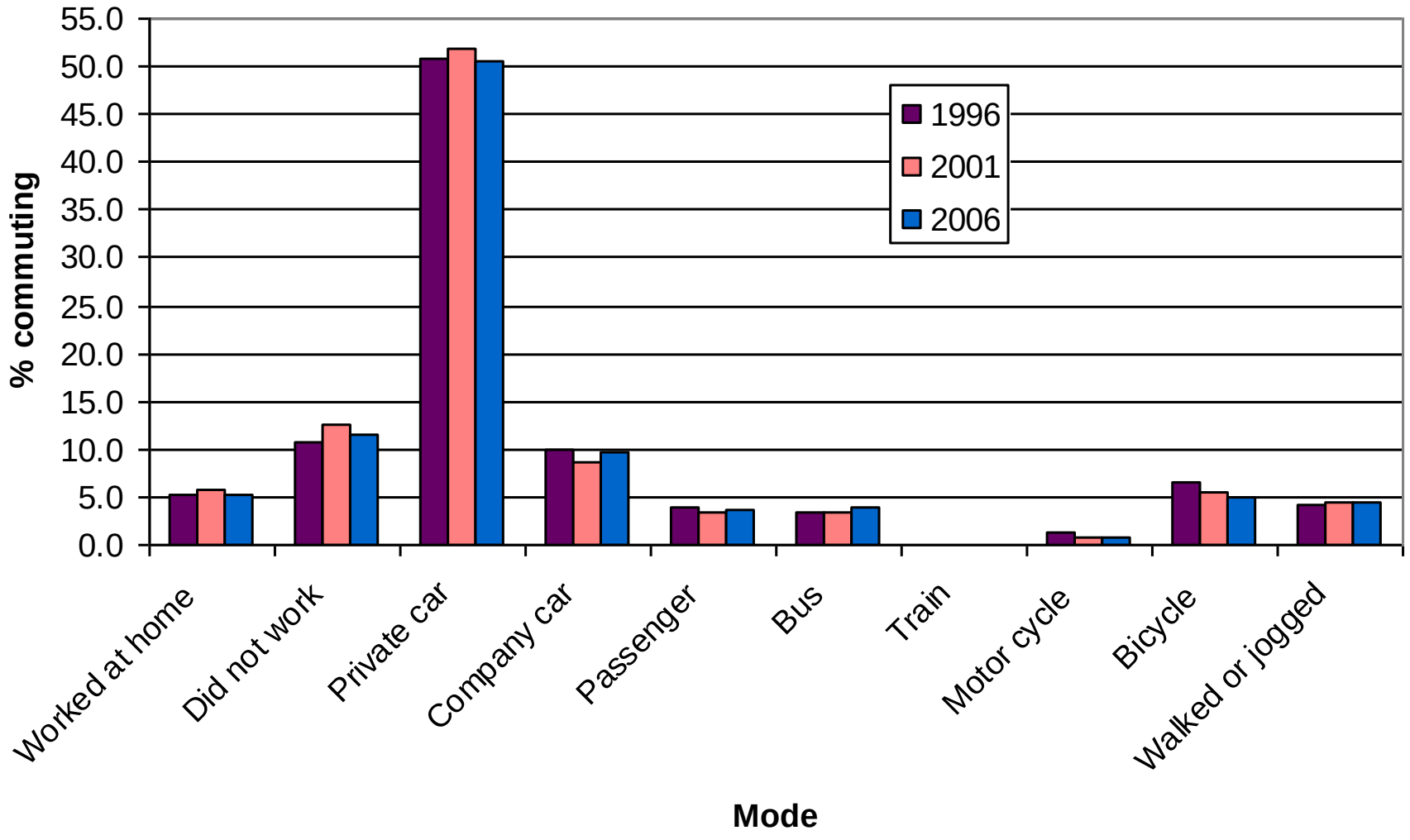
How we travel



Challenges

Climate change and peak oil are real problems

Potentially technology could solve them

But:

- probably won't
- not in time
- at a cost society won't want to pay

But other major problem – HEALTH

Technology cannot solve them

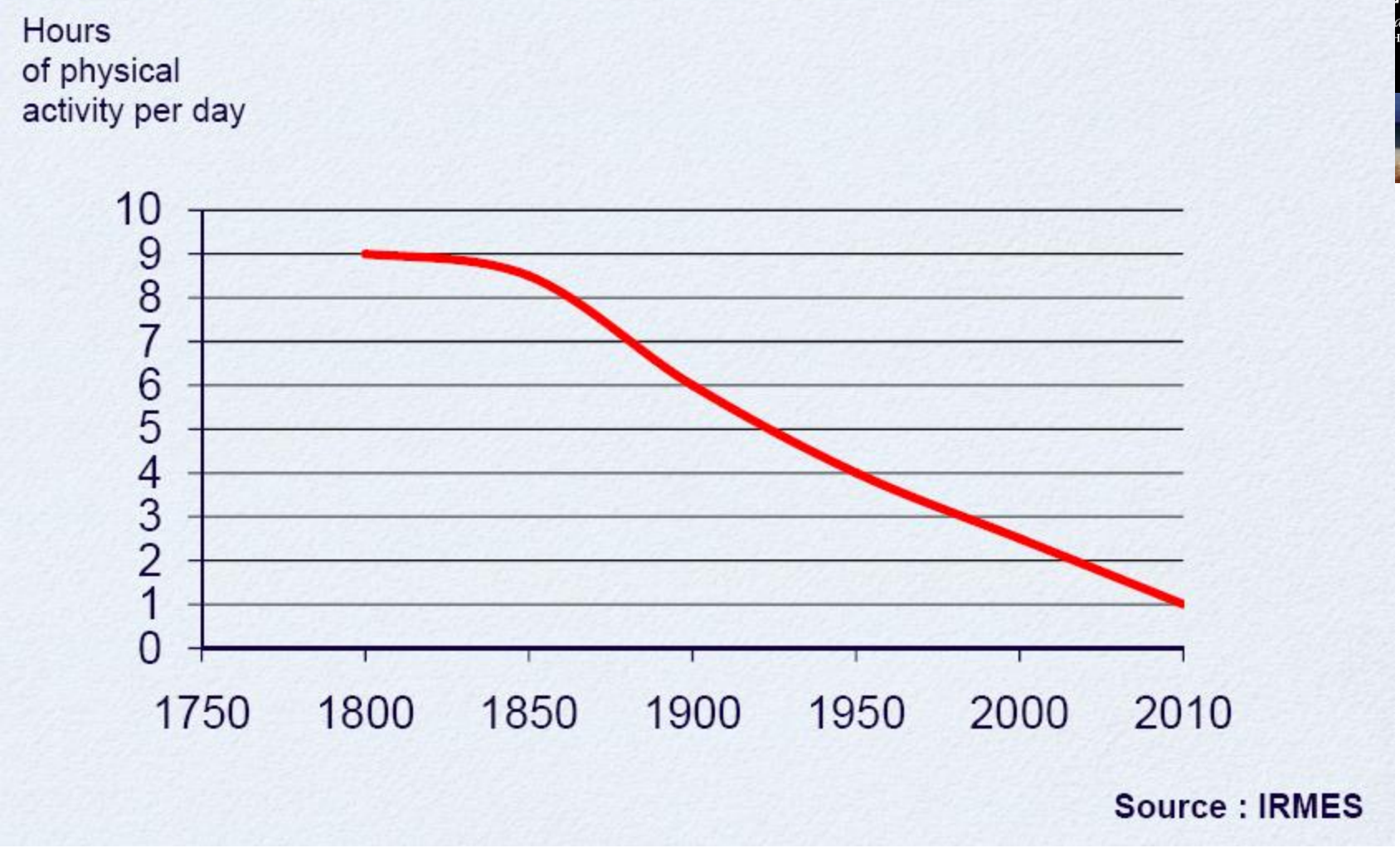
Behaviour change is the key

The benefits of active & PT travel

Physical activity

Social capital

Evolution of the daily amount of physical activity in France



Source: Saladin, 2009, Bicycles, kitchen-gardens, health, economy, and urban planning. Velo-City Conference, Brussels.

The benefits of active travel

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Are transport-active countries healthier?

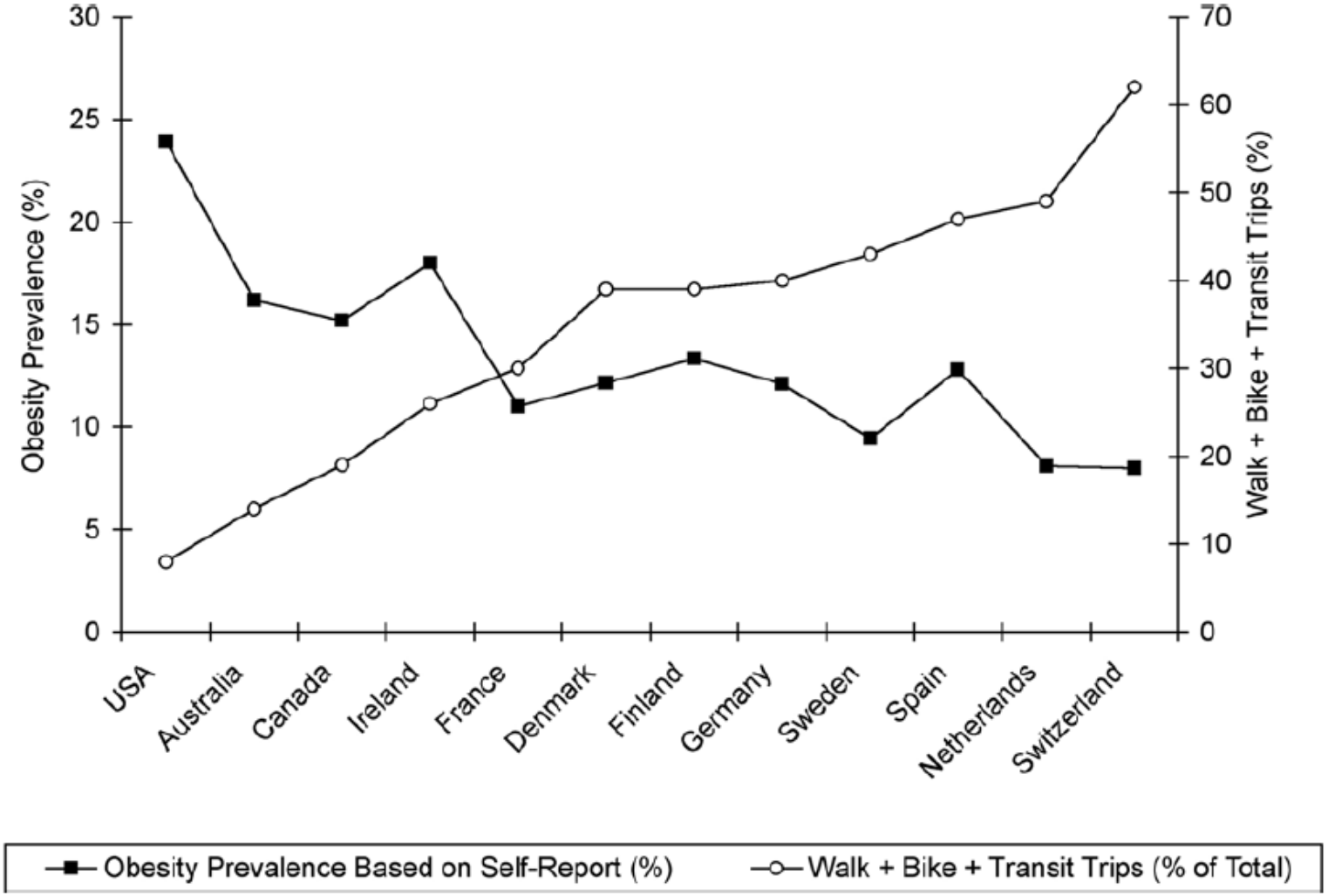
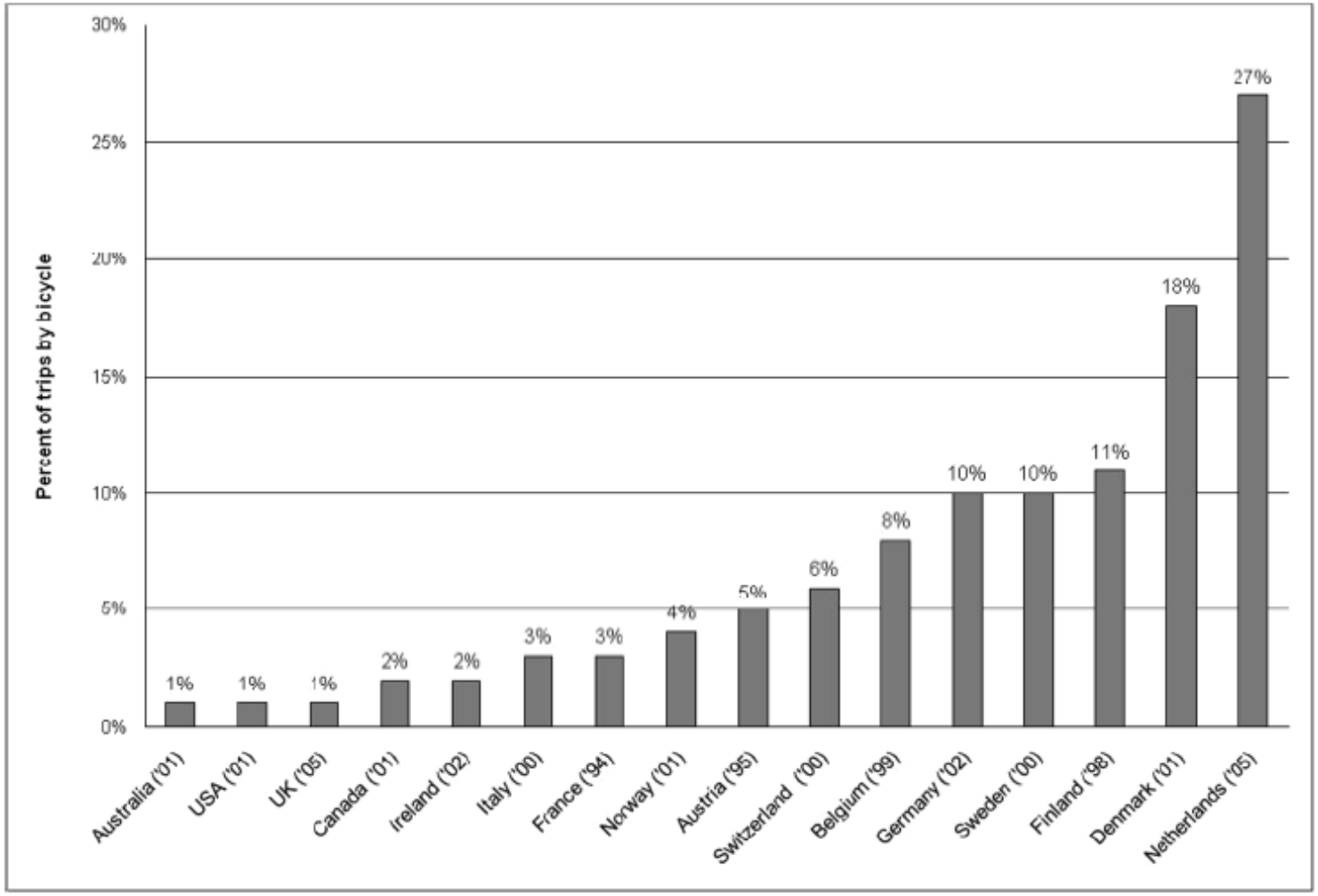


Figure 2 — Obesity (BMI ≥ 30 kg · m^{-2}) prevalence and rates of active transportation (defined as the combined percentage of trips taken by walking, bicycling, and public transit) in countries of Europe, North America, and Australia. BMI was computed from self-reported height and weight. Data were obtained from national surveys of travel behavior and health indicators conducted between 1994 and 2006 (see text for details).

Bassett et al, 2008, Walking, Cycling, and Obesity Rates in Europe, North America, and Australia. *Journal of Physical Activity & Health* 5 (6):795-814.

Who cycles most?

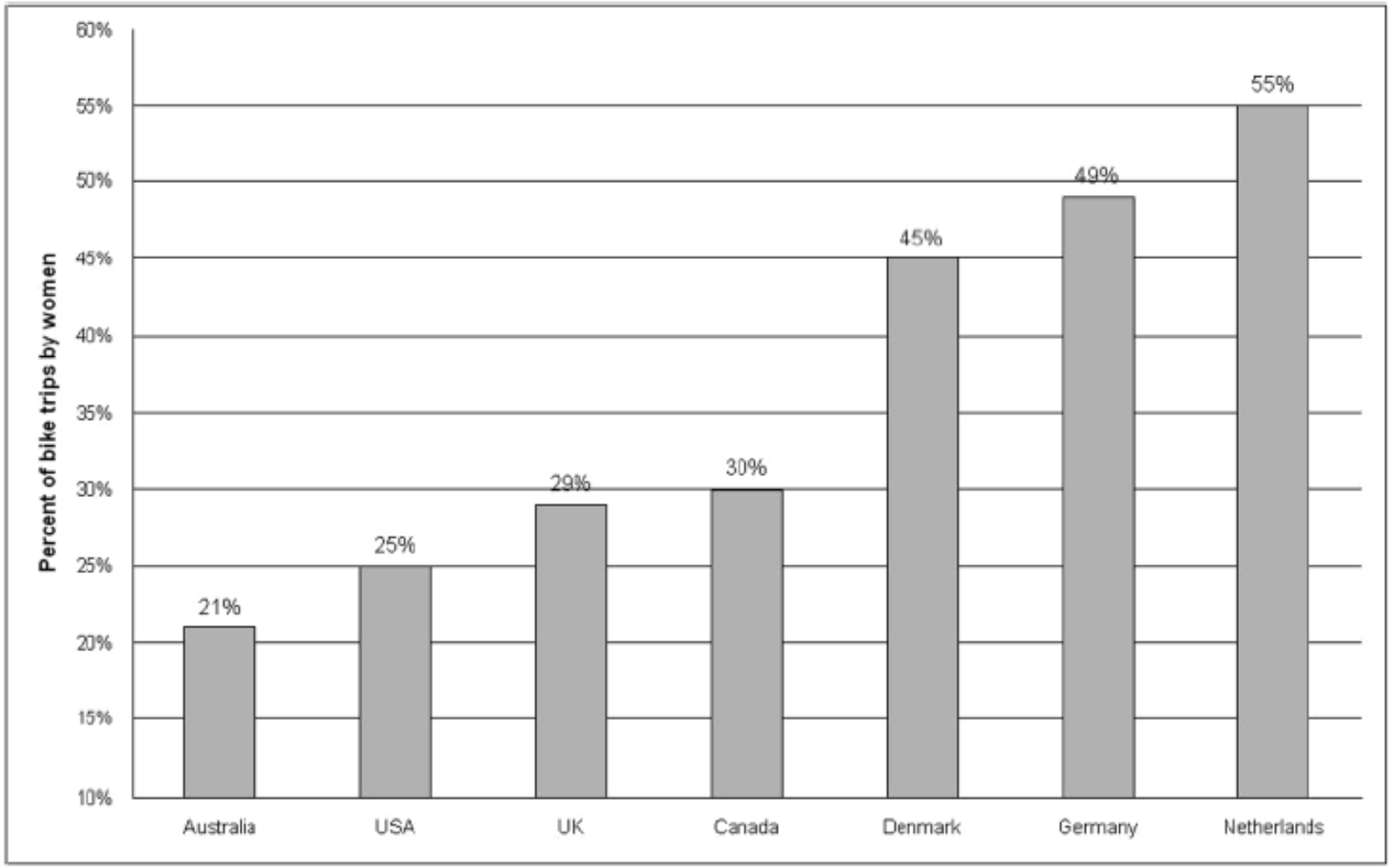


Sources: European Union (2003); German Federal Ministry of Transport (2003); U.S. Department of Transportation (2003); European Conference of the Ministers of Transport (2004); Department for Transport (2005); Organisation for Economic Cooperation and Development (2005); Netherlands Ministry of Transport (2006); Australian Bureau of Statistics (2007)

Figure 1. Bicycle share of trips in Europe, North America and Australia (percentage of total trips by bicycle).

Pucher, John, and Ralph Buehler. 2008. Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany. *Transport Reviews* 28 (4).

Only for blokes?

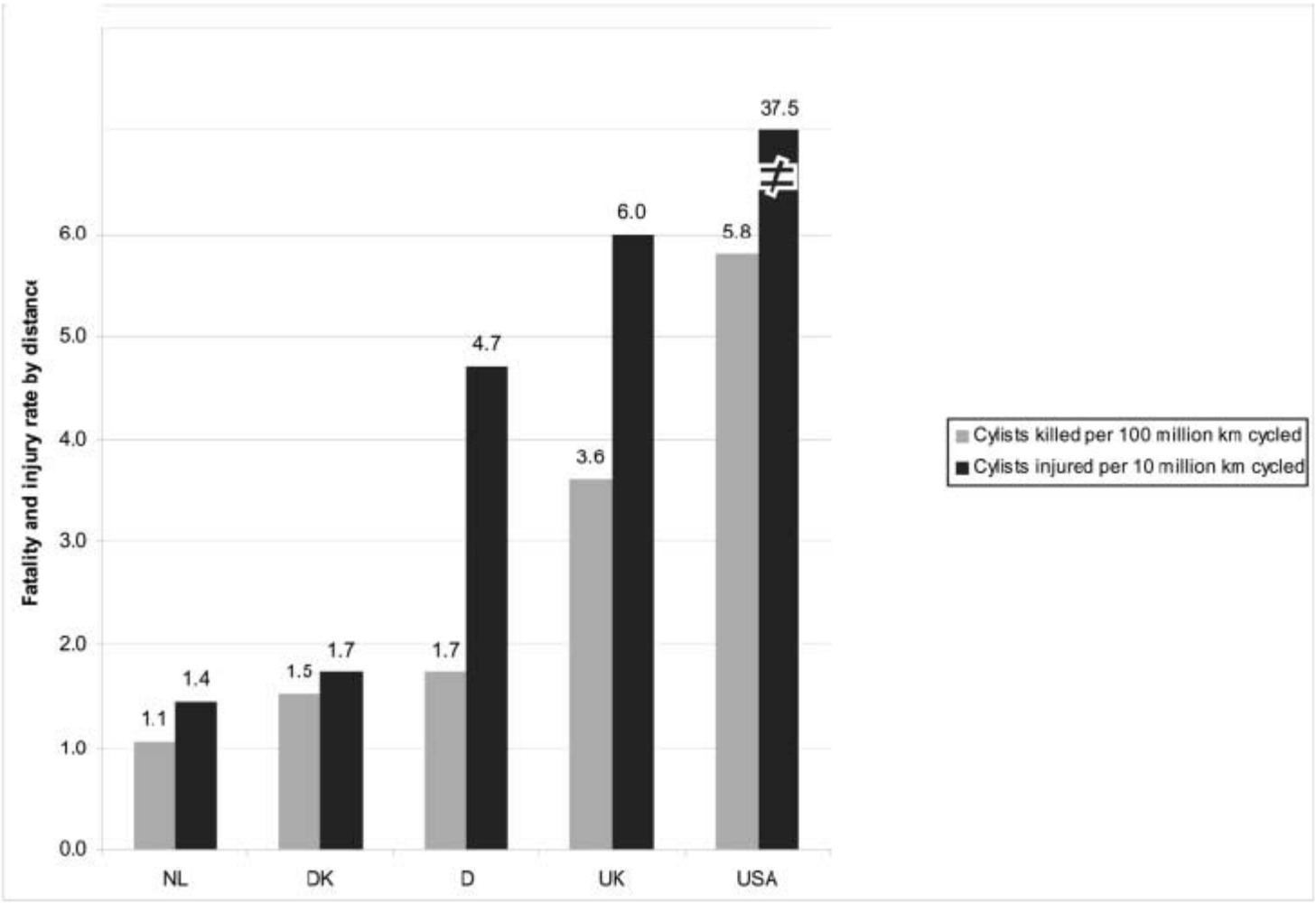


Sources: German Federal Ministry of Transport (2003); U.S. Department of Transportation (2003); Danish Ministry of Transport (2005); Statistics Netherlands (2005); Australian Bureau of Statistics (2007); Department for Transport (2007) and information provided directly by bike planners in Canadian provinces and cities

Figure 8. Women's share of total bike trips in Australia, the USA, the UK, Canada, Denmark, Germany and the Netherlands (2000–2005).

Pucher, John, and Ralph Buehler. 2008. Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany. *Transport Reviews* 28 (4).

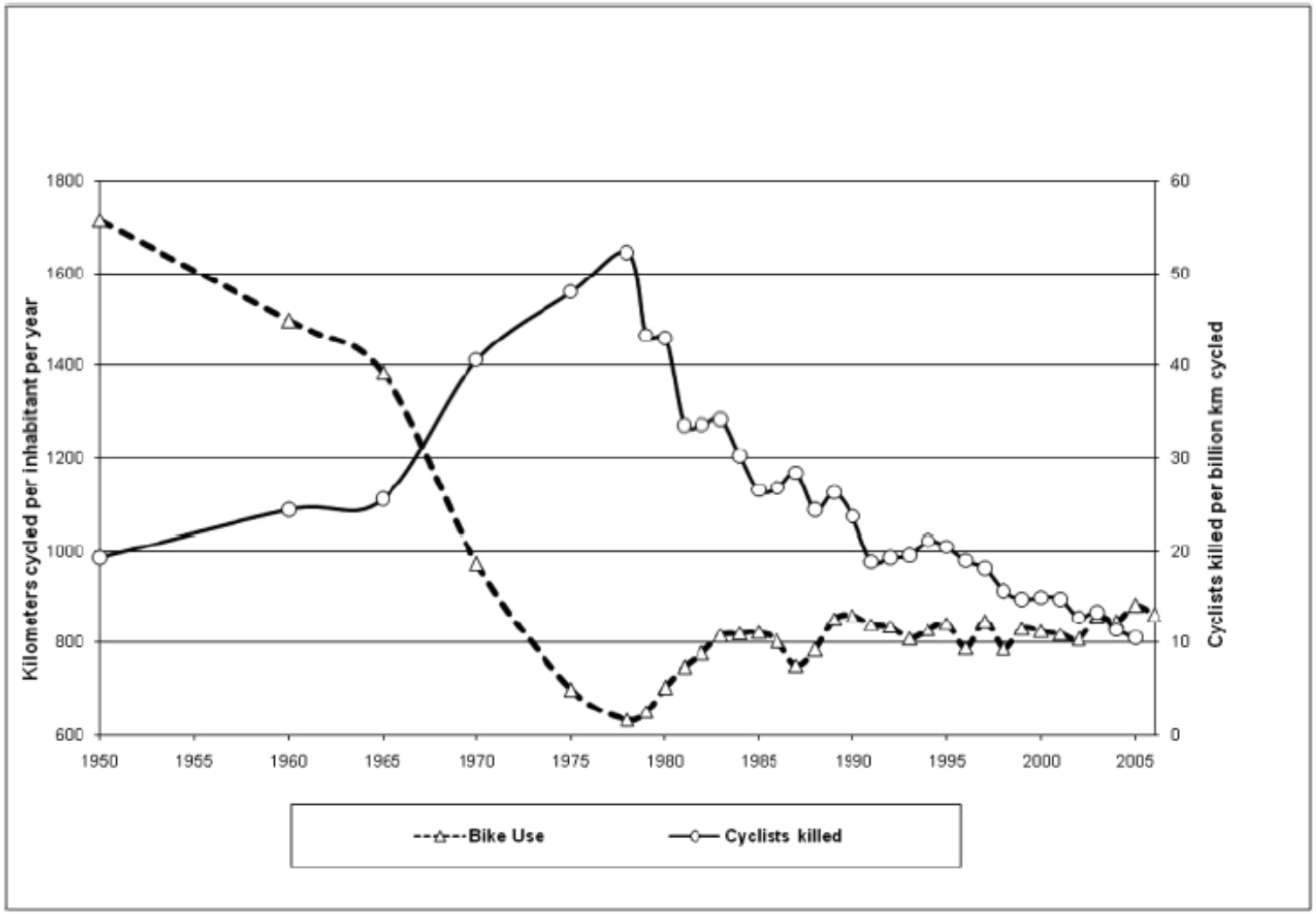
Cycling is dangerous?



Sources: Danish Ministry of Transport (2007); Department for Transport (2007); German Federal Ministry of Transport (2007); Netherlands Ministry of Transport (2007); U.S. Department of Transportation (2007)

Figure 10. Fatality rates and non-fatal injury rates in the Netherlands, Denmark, Germany, the UK and the USA (2004–2005).

Pucher, John, and Ralph Buehler. 2008. Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany. *Transport Reviews* 28 (4).



Source: Netherlands Ministry of Transport (2007)

Figure 12. Inverse trends in cycling fatality rates and annual kilometres cycled per inhabitant in the Netherlands (1950–2005).

Pucher, John, and Ralph Buehler. 2008. Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany. *Transport Reviews* 28 (4).

Overall impacts

Overall positive health impacts

"*On average, the estimated health benefits of cycling were substantially larger than the risks relative to car driving for individuals shifting their mode of transport*"

- de Hartog *et al*, 2010, Do the health benefits of cycling outweigh the risks? EHP 118, 8, 1109-1116.

Economic sense

- Source: Cycling England, 2007, Valuing the Benefits of Cycling

What do we need to do?

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"*Substantial increases in bicycling require an integrated package of many different, complementary interventions, including infrastructure provision and pro-bicycle programs, supportive land use planning, and restrictions on car use*"

- Pucher *et al*, 2010. Infrastructure, programs, and policies to increase bicycling: An international review. *Preventive Medicine* 50 (Supplement 1):S106-S125.

It works

Small investment showed 27% increase in cycling in UK towns

What sort of cycle infrastructure?

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1. **What do non-cyclists want?**

Separation from traffic

Significantly more attractive than anything else

Consistency at junctions

- Kingham S, Koorey G and Taylor K, 2011, Assessment of the type of cycle infrastructure required to attract new cyclists. NZTA Report TRV08/06.

In city, and access to city

Public transport

High quality infrastructure

Subsidy?

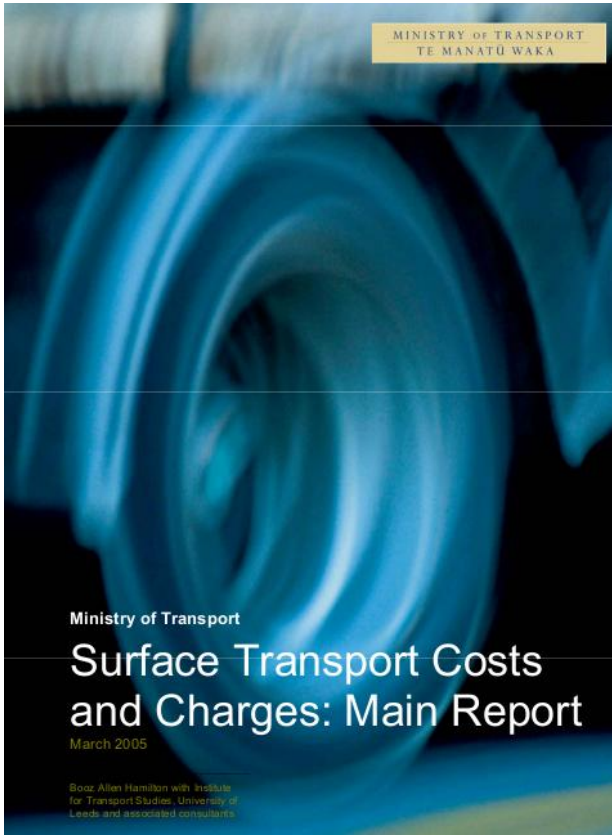
cars directly pay 64% of their costs

trucks directly pay 56% of their costs

buses directly pay 68% of their costs

rail users directly pay 77% of their costs

Does not include exercise-related health!



PT and health

Activity levels

PT travel includes walking

Canadian research shows *"a transit trip involves 1250 steps, required to access and egress the network as well as to transfer between routes or modes"*

A round trip (2500 steps) "*account for 25% of the recommended volume of physical activity per day*"

- Morency *et al*, 2011, Walking to transit: An unexpected source of physical activity. Transport Policy, *in press*

Social capital

Economic benefits of PT

Every US$1bn spent on PT produced 16,419 job months

Every US$1bn spent on highway infrastructure produced 8,781 job months

'What we learned from the stimulus' report (report based on US Congress House of Representatives Transportation and Infrastructure committee) Jan 2010.

Bus or rail

Bus is:

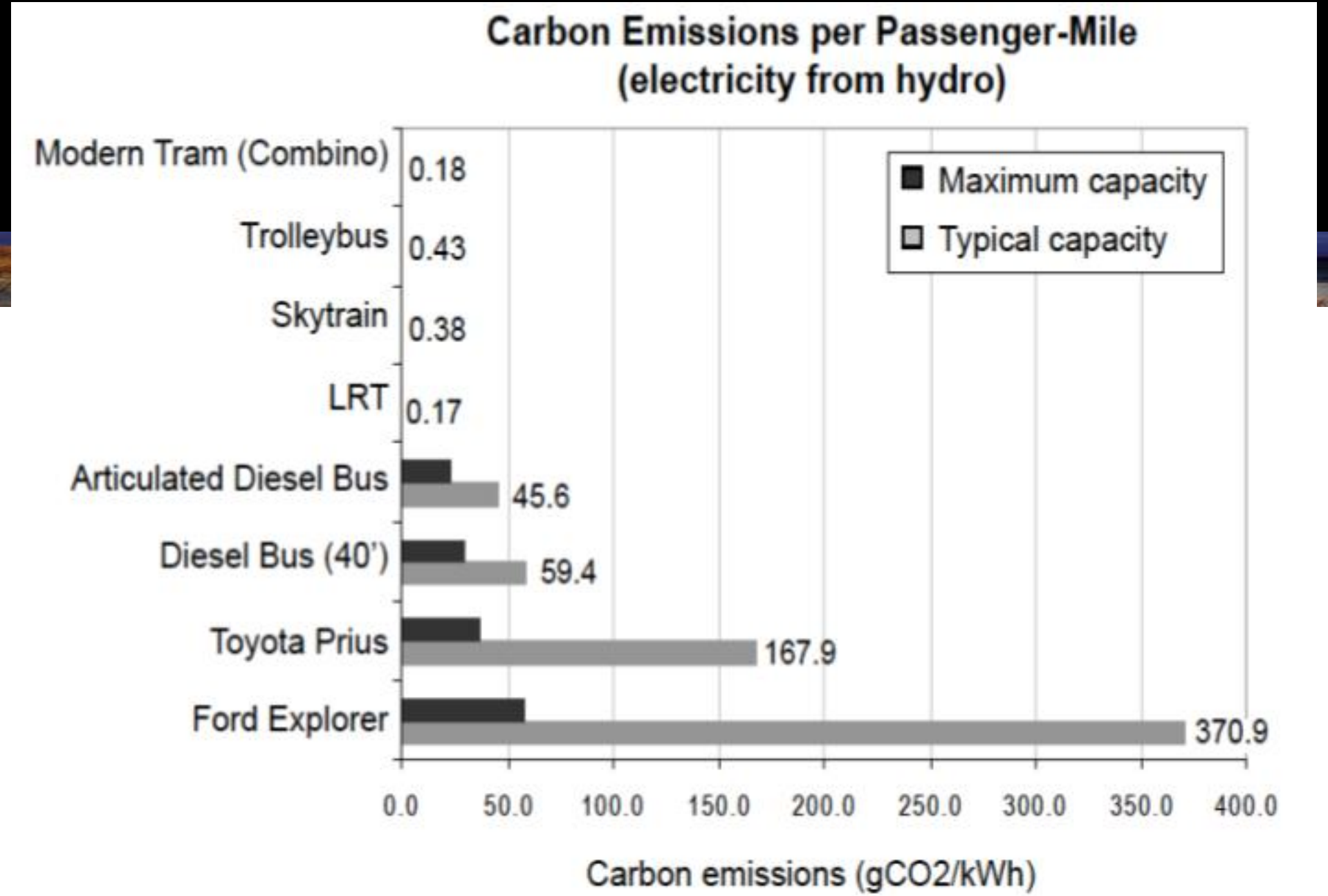
cheaper and easier to do

more flexible

Rail is:

preferred by users

avoids congestion



Source: Strickland, 2008; EPA, 2005; Spadaro et al. 2000

Can rail work in Christchurch?

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Population size and density!

Smaller and less dense cities have light rail

Too expensive!

NZ spending over $10bn on new motorways

- Could build over 600-700km of light rail (based on Calgary price of $14-18m per km)

Future thinking

Integrated transport

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Bus and rail linked

Park and ride

Including bikes

Bikes on PT

Not just random selection

Bike boulevards

Worst points are barriers

Transport and inequality

Communities that promote active and sustainable transportation can:

Reduce disparities between the rich and poor

Promote good neighbourhood

Enable poor to gain better access to healthy food.

Lead to decreased crime

- OECD Project on Environmentally Sustainable Transport, 2002

Take home messages

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Active and Public Transport are good for health

Active and Public Transport are good economic sense

Active and Public Transport reduce social inequality

Integrated transport is essential

Future thinking is essential

Plan for future not just for now

Provide quality choices

When you provide real choice people don’t always want to drive